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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,666	04/13/2004	Jyh-Chun Chang	CHAN3248/EM	3145
23364	7590	05/24/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			NGUYEN, VINH P	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/822,666

Applicant(s)

CHANG ET AL

Examiner

VINH P. NGUYEN

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0404.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

2. Claims 1-17 are allowable because the prior art does not disclose a probe apparatus having a plurality of probes, a circuit space converter with multiple layers of circuits and a plurality of first contacts and second contacts respectively arranged at two opposite sides of the multiple layers of circuits for transmitting signal from the probes to the second contacts, a spring connector plate with a holder plate, the holder plate having a predetermined number of receiving holes extended through top and bottom sides thereof, and a plurality of metal spring members respectively mounted in the receiving holes of the holder plate and electrically connected to the second contacts of the circuit space converter, a circuit board having a plurality of circuits and contacts arranged on one side thereof and electrically connected to the metal spring members of the spring connector plate for testing electric signal transmitted from the probes; and a level adjustment mechanism adapted to hold the probes, the circuit space converter, the spring connector plate and the circuit board in order and to adjust the level status of the circuit space converter, for enabling the metal spring members to compensate elevational difference between the circuit space converter and the spring connector plate and to keep the circuit space converter electrically connected to the circuit board.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khandros et al (pat # 5,806,181) disclose contact carrier for populating larger substrates with spring contacts.

2. Claims 1-17 are allowable because the prior art does not disclose a probe apparatus having a plurality of probes, a circuit space converter with multiple layers of circuits and a plurality of first contacts and second contacts respectively arranged at two opposite sides of the multiple layers of circuits for transmitting signal from the probes to the second contacts, a spring connector plate with a holder plate, the holder plate having a predetermined number of receiving holes extended through top and bottom sides thereof, and a plurality of metal spring members respectively mounted in the receiving holes of the holder plate and electrically connected to the second contacts of the circuit space converter, a circuit board having a plurality of circuits and contacts arranged on one side thereof and electrically connected to the metal spring members of the spring connector plate for testing electric signal transmitted from the probes; and a level adjustment mechanism adapted to hold the probes, the circuit space converter, the spring connector plate and the circuit board in order and to adjust the level status of the circuit space converter, for enabling the metal spring members to compensate elevational difference between the circuit space converter and the spring connector plate and to keep the circuit space converter electrically connected to the circuit board.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khandros et al (pat # 5,806,181) disclose contact carrier for populating larger substrates with spring contacts.


Khandros et al (Pat # 5,917,707) disclose flexible contact structure with an electrically conductive shell.

Eldrige et al (Pat # 6,615,485) disclose probe card assembly and method of making same.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is 571-272-1964. The examiner can normally be reached on 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VINH P NGUYEN
Primary Examiner
Art Unit 2829

05/20/05